Claims

1. A borehole opener, particularly for enlarging this hole underneath a casing in the field of oil prospecting, comprising:

- a body (2) of longitudinal axis (3),
- a duct (4) for drilling fluid, formed longitudinally in the body (2), and
- at least two hole-opening arms (5)
  - which have an active part (7) equipped with cutting means (8),
  - which are distributed symmetrically in the body (2) about the longitudinal axis (3), and
  - which are arranged therein in such a way that they can be moved between a position of rest (9) in the body (2) and an active position (10) partially out of the body (2),

wherein, in order to move it from the position of rest (9) into the active position (10), each arm (5) has a face (12), internal to the body (2), designed to be subjected directly, in the same way as an active face of a piston, to the pressure of the drilling fluid flowing through the body (2).

2. The hole opener as claimed in claim 1, wherein the arm (5) is mounted in such a way that it can slide parallel to itself in the body (2), so as to move from the position of rest (9) into the active position (10) and vice versa.

3. A hole opener as claimed in either of claims 1 and 2, wherein, to move the arms from the active position (10) into the position of rest (9), the hole opener (1) comprises means for elastically returning the arms (5).

4. A hole opener as claimed in any of claims 1 through 3, wherein each arm (5) is kept in the position of rest (9) prior to a hole-opening operation, by at least one pin (19) designed to break when the pressure

of the drilling fluid flowing through the duct (4) exceeds a predetermined value higher than a maximum usual boring value.

5. A hole opener as claimed in any of claims 1 through 4, wherein the arm (5) is mounted in the body (2) by means of an intermediate support (15) which acts as a housing for the arm (5) in the body (2) and which is fixed to the latter.

6. The hole opener as claimed in claim 5, wherein the aforementioned pin (19) fixes the arm to the intermediate support (15).

7. A hole opener as claimed in either of claims 5 and 6, wherein the intermediate support (15), the arm (5), the aforementioned elastic return means (13) and the pin (19) constitute an assembly (21) designed to be assembled in advance outside the body (2) and then installed therein.

8. A hole opener as claimed in any of claims 4 through 7, wherein the pin (19) comprises a region (19A) of calibrated weakness, at the point or at each point of transition (20) where the pin (19) passes, as the case may be, either from the body (2) or from the intermediate support (15) into the arm (5).

9. A hole opener as claimed in any of claims 1 through 8, wherein

- on its outer face, between two successive arms (5), the body (2) has a longitudinal passage (22) for returning drilling fluid, and
- a boss (23) arranged in this passage (22) so as to deflect the drilling fluid onto that part of the wall of the hole on which the arms (5) are acting.

10. A hole opener as claimed in any of claims 1 through 9, wherein the travel of an arm (5) between the position of rest (9) and the active position (10) is limited by stops, and also by the pin (19) where appropriate, so that in the position of rest (9), the arm (5) is fully retracted into the body (2) and so that in the active position (10), the arm (5) sweeps through an area, the largest diameter of which is equal

to between 1.05 and 1.3 times, preferably 1.2 times, the nominal diameter of a drill bit associated with the hole opener (1) for a combined drilling and hole-opening operation.